DOCUMENT RESUME

ED 351 623 CG 024 623

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TITLE Cognitions and Procedures in Response to Illness.
PUB DATE Aug 90
NOTE 8p.; Paper presented at the Annual Convention of the American Psychological Association (98th, Boston, MA, August 10-14, 1990).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Patterns; *Cognitive Processes; *College Students; *Coping; *Diseases; Higher Education

ABSTRACT

Recent research in illness has stressed the importance of constructive processes as determinants for coping and appraisal with illnesses. The goal of this study was to construct a lexicon of cognitive and behavioral responses people employ to cope with illness. Undergraduate college students (N=105) were given two illness scenarios describing the unfolding of a severe flu and an appendicitis inflammation and asked to indicate what they would do and what they would think if they were in the described situation. Results indicated that actions are dependent upon the severity and ambiguity of the illness. Contrary to previous research these scenarios stimulated a large number of thoughts and a substantial number of coping procedures. The two scenarios elicited similar thoughts and procedural reactions, with a tendency to provoke more thoughts than procedures. The number and content of these thoughts and procedures was similar for males and females. The appendicitis scenario elicited need for professional support far quicker and more frequently than the flu scenario. The study was successful in establishing a lexicon of thoughts and procedures people display when coping with illness. Interestingly, not each thought category had a corresponding procedure category. The study demonstrated that coping procedures and appraisal mechanisms change over time, flexibly adapting to varying demands from the environment. (ABL)

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Cognitions and Procedures in Response to Illness

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Boston, Massachussetts, August 10-14, 1990.

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ABSTRACT

The goal of the study was to construct a lexicon of cognitive and behavioral responses people employ to cope with illnesses. Students were given two illness scenarios describing the unfolding of a severe flu and an appendicitis inflammation and asked to indicate what they would do and what they would think if they were in the described situation. Results indicated that actions are dependent on the severity and ambiguity of the illness. Contrary to previous research and our predictions, these scenarios stimulated a large number of thoughts and a substantial number of coping procedures. The number and content of these thoughts and procedures was similar for males and females.

INTRODUCTION

Recent research in illness cognition has stressed the importance of constructive processes as determinants for coping and appraisal with illnesses (e.g., Leventhal, Meyer & Nerenz, 1980; Bishop, 1987; Leventhal and Diefenbach, 1990). This research identified not only those attributes that determine the common-sense representations of illnesses, but also described the hierarchical and dimensional organization of illness knowledge (e.g., an acute-chronic dimension, or a fatal-non fatal dimension).

Although researchers were successful in developing a theoretical framework of representation, coping, and appraisal processes, there was little empirical data as to what people "actually do when they are sick". Bishop (1987) made the first attempt to link specific procedures to different symptoms. His results indicated large gender differences in the use of health maintaining behaviors such as "reducing ones daily activities", "taking prescription/nonprescription medicine", or "going to a doctor". Females displayed a well differentiated coping pattern and employed distinct actions at specific bifurcations in the clustering of symptoms. Males, on the other side, would engage in a wide variety of actions at the same time, presumably when it was necessary to identify the symptoms as signs of an illness. The reasons for these gender differences are unclear. One might think that males are less threatened by health issues and ignore symptoms until the very last minute, or that they simply lack the knowledge and/or the skills to make adequate decisions.

The present study was designed to:

1. establish a lexicon of cognitions and behavioral actions as a response to an illness by using an open-ended response format for two illness scenarios differing in severity.
2. examine the unfolding and interplay of thoughts and actions as they appear over time, that is, as new symptom information is added to the scenario.
3. record sex related differences in the number type, and time of elicitation of thoughts and coping procedures.

HYPOTHESES

Based on our understanding that coping and appraisal processes are flexible and react to ever changing situation and internal changes we predicted:

1) coping and appraisal processes will vary with the severity, duration and ambiguity of the presented symptoms. For example, the appendicitis scenario will elicit fewer overall responses and a quicker use of professional help than the flu scenario.

2) females will show a wider and more flexible range of illness related coping procedures than males.

METHODS

Subjects were 105 undergraduate students who participated for course credit. Students received a package with various ancillary measures and two written illness scenarios.

The illness scenarios described the unfolding of an appendicitis inflammation and the occurrence of a severe flu. Both scenarios follow the same format: each story is divided into 7 scenes which progress in 2 to 4 hours intervals; after each scene the subject is asked to write down what they would think and what they would do at that particular point of the illness; a 12 item mood check list is also completed for each scene. The two scenarios were made as comparable as possible. For example, each of their scenes were matched for the same number of illness specific (e.g., sore throat) and general symptoms (e.g., feeling sluggish). However, the two scenarios differed in terms of severity and acuteness of symptoms. Symptoms in the appendicitis scenario were described as being more painful and severe with a shorter onset compared to the flu symptoms.

TWO SAMPLE SCENES

1. The third scene of the flu scenario:

> 4.00 PM. At around four in the afternoon your throat is definitely sore on both sides. It hurts if you swallow and you feel tired and even sluggish. your body and your muscels ache. You are coughing occasionally and your sinuses feel clogged.

2. The seventh and final scene of the appendicitis scenario:

> 7.00 AM. By next morning you have a constant burning and throbbing sensation in your lower abdomen. You try to get out of your bed, but it seems to be impossible. You are in such severe pain that you can barely manage to crawl to the bathroom.

After each scene the following open-ended questions were asked:

1. What thoughts would come to your mind?
2. What else would you do right then?

After completing above open-ended items the subjects rated their feelings on a 11-point, 12 item mood adjective check list.

DATA REDUCTION

The answers to the open-ended questions were classified separately by two raters into 25 categories describing thoughts and into 15 categories describing actions. Categories were established from a first initial scoring of all questionnaires (see table 1).

To determine whether the raters aggreed on identifying the same number of thoughts or procedures in each scene, the number of responses identified by each rater were correlated. The mean correlation across scenarios, thoughts and procedures was $\underline{r} = .74$.

To compute interrater reliabilities for each category we computed Cohen's kappa (Cohen, 1960) which indicates agreement above chance. The mean kappa across scenarios, thoughts and actions was $\underline{\kappa} = .73$.

CATEGORIES FOR CLASSIFYING THOUGHTS

1. CAUSE
2. COGNITIVE SEARCH
3. DENIAL
4. DIVERSION/CONTROLLABILITY OF SELF
5. NEGATIVE EMOTIONS/AFFECT
6. NO WORRY/POSITIVE THINKING
7. PRACTICAL ORGANIZATION
8. REALIZATION OF BEING ILL
9. REDUCE ACTIVITY
10. PROFESSIONAL SUPPORT
11. SOCIAL SUPPORT
12. PAST TIME LINK
13. FUTURE TIME LINK

THOUGHTS ABOUT ACTIONS

14. THGTHS ABOUT MEDICATION;
15. FOOD & DRINK;
16. MINOR ACTIONS: INFO GATHERING;
17. MAKE IT THROUGH THE DAY; STICK IT OUT;
18. PLANNING;
19. HEALTH PROMOTIVE THOUGHTS E.G., VITAMINS,
20. WAIT AND SEE;
21. WORRY ABOUT IMPACT;
22. WORRY ABOUT ILLNESS;

23. WORRY GENERAL;

24. DEATH;

25. ATTPIBUTIONAL THOUGHTS/ SELF BLAME;

CATEGORIES FOR CLASSIFYING PROCEDURES

1. DIVERSION
2. OVERT EMOTIONAL BEHAVIOR
3. PROCEED W/ ROUTINE, MAINTAIN DAILY ROUTINE
4. REDUCE ACTIVITIES
5. RELAX
6. SUPPORT PROFESSIONAL
7. SUPPORT SOCIAL
8. WAIT AND SEE
9. OTHER

MINOR ACTIONS

10. FOOD & DRINK
11. MEDICATION
12. HEALTH PROMOTIVE BEHAVIORS
13. INFORMATION GATHERING
14. GENERAL
15. PLANNING

RESULTS

- The two scenarios elicited similar thoughts and procedural reactions with, as expected, a tendency to provoke more thoughts than procedures. There were no differences in the number and quality of responses between males and females (see fig. 1).
- Examining the mean frequency for thoughts and procedures reveals that the categories used most often were the same for males and females. Thus, contrary to prediction, males and females engage in similar thoughts and identical coping procedures (see table 1 and table 2).
- Figures 2 and 3 illustrate this point. Figure 2 displays the proportion of responses to seek professional help for each scenario separately across the seven scenes. Male and female subjects show almost the same frequency in response. Figure 3 corroborates the similarity in response for males and females showing that both illness scenarios elicit similar thoughts about reducing activities.
- Figures 2 and 3 further show differences between the scenarios for the following thoughts and procedures:
    - The appendicitis scenario elicits need for professional support far quicker and more frequently than the flu scenario (fig. 2).

- The mean difference between the flu and the appendix scenario, across sex, for the category to seek professional support is significant. For thoughts: (t (13) = -3.79) $p < .05$; for procedures: (t (13) = -3.89) $p < .05$.
- Similarly, computing the mean responses across sex for reduction of activities (thoughts and procedures separately) reveals a significant difference for thoughts between the appendicitis and flu scenario (t (13) 20,45), as well as for procedures (t (13) 4.23) at $p < .05$.

In each of the above case there are no sex differences.

DISCUSSION

This study was successful in establishing a lexicon of thoughts and procedures people display when coping with illness. As predicted, coping and appraisal processes (i.e., the thoughts and procedures) varied with severity and ambiguity of the presented symptoms. The flu scenario elicited far more thoughts than the appendicitis scenario which corresponds to the nature of these two illness. People are much more likely to ruminate about lingering symptoms with gradual onset, compared to symptoms with rapidly increasing pain and sharp onset.

Interestingly, not each thought category has a corresponding procedure category. For example, thoughts about cause have been reported with high frequency for both scenarios, however a corresponding procedure category that is, procedures that might be used to answer the causal question (e.g, information gathering) were few in number.

Contrary to our prediction (hypothesis 2), we were not able to replicate Bishop's (1987) finding of sex differences for coping procedures. Males and females in this sample used similar coping procedures with similar frequencies. This surprising finding might be due to the nature of the sample. Our subjects were undergraduate college students, whereas Bishop's participants were largely volunteers from community and church circles.

In summary, this study provides important information about different thoughts and actions people engage in when facing an illness. It demonstrates that coping procedures and appraisal mechanisms change over time, flexibly adapting to varying demands from the environment.

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